



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,210	12/04/2003	David Herbert Roach	CL2248USNA	7968

23906	7590	12/06/2007
E I DU PONT DE NEMOURS AND COMPANY		
LEGAL PATENT RECORDS CENTER		
BARLEY MILL PLAZA 25/1128		
4417 LANCASTER PIKE		
WILMINGTON, DE 19805		

EXAMINER	
SCHILLING, RICHARD L	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
12/06/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-Legal.PRC@usa.dupont.com

Office Action Summary	Application No. 10/728,210	Applicant(s) ROACH ET AL.	
	Examiner Richard L. Schilling	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 71,75-77,79,80 and 110 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 71,75-77,79,80,110 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11-8-07</u> | 6) <input type="checkbox"/> Other: _____ |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11-08-07 has been entered.

2. Claims 71, 75-77, 79, 80 and 110 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is indefinite as to whether a finished patterned product made using photosensitive photopolymers or an element with two structures containing imageable photopolymers is being claimed. The structured patterned products in the specification do not contain imageable layers or structures but rather imaged structures.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 71, 75-77, 79, 80 and 110 are rejected under 35 U.S.C. 102(b) as being fully met by Bouchard et al. Bouchard et al. (paragraphs 32,36-38,47-51; examples 1,11,15-17,24,25) discloses patterned elements comprising electron emitter structures with carbon nanotubes and conductive structures, e.g. cathodes, anodes, gate electrodes, with metal, e.g. silver, or metalloid particles which are formed by

selective coating of organic pastes, including exposure and development of photoresists, with the particles followed by firing to remove organic materials. The materials of the instant claims include those which are fired to remove organic materials (positive photopolymers) as disclosed in the specification on page 14. The patterned elements of Bouchard et al. are the same as those encompassed by the instant claims even if not made using positive photoresists since firing removes organic photoresist materials.

4. Claims 71, 75-77, 79, 80 and 110 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not set forth a written description of the generic elements of the instant claims with one generic structure having carbon nanotubes and the other having transition metals, metalloids or metal alloys other than elements wherein the carbon nanotube structure is an electron emitter and the other structure is a conductive structure. The specification discloses single layer elements and multiple structure elements with 8 listed particles (page 10, lines 12-17) but not generically carbon nanotubes in one structure and 3 out of 8 particles in another structure other than on page 11, lines 10-16, wherein conductive structures preferable contain transition metals, metalloids or metal alloys and page 11, line 38 – page 12, line 3 wherein preferred electron emitting particles are carbon nanotubes.

5. Claims 71, 79, 80 and 110 are rejected under 35 USC 103(a) as being unpatentable over Bouchard et al. in view of Imai et al. and Cernigliaro et al. for the same reasons as set forth in paragraph 6 of the first office action filed 6-27-07.

Applicants' argument that there is no motivation to use positive resists in Bouchard et al. instead of negative resists is unconvincing since the secondary applied prior art makes obvious the use of either positive working or negative working photoresists to provide patterns of particles which are fired to remove the organic resist materials as in Bouchard et al.

6. Claims 75-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouchard et al. in view of Cernigliaro et al. and Imai et al. further in view of Anderson et al., Thackery et al. and Hatabata et al. for the same reasons as set forth in paragraph 7 of the first office action filed 6-27-07.

Any inquiry concerning this communication should be directed to Richard L. Schilling at telephone number 571-272-1335.

RICHARD L. SCHILLING
PRIMARY EXAMINER
GROUP 1190

